

POWER DEVICES WITH IMPROVED BREAKDOWN VOLTAGES

ABSTRACT OF THE DISCLOSURE

A power device includes a semiconductor substrate of first conductivity having an upper surface and a lower surface. An isolation diffusion region of second conductivity is provided at a periphery of the substrate and extends from the upper surface to the lower surface of the substrate. The isolation diffusion region has a first surface corresponding to the upper surface of the substrate and a second surface corresponding to the lower surface. A peripheral junction region of second conductivity is formed at least partly within the isolation diffusion region and formed proximate the first surface of the isolation diffusion region. First and second terminals are provided.

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